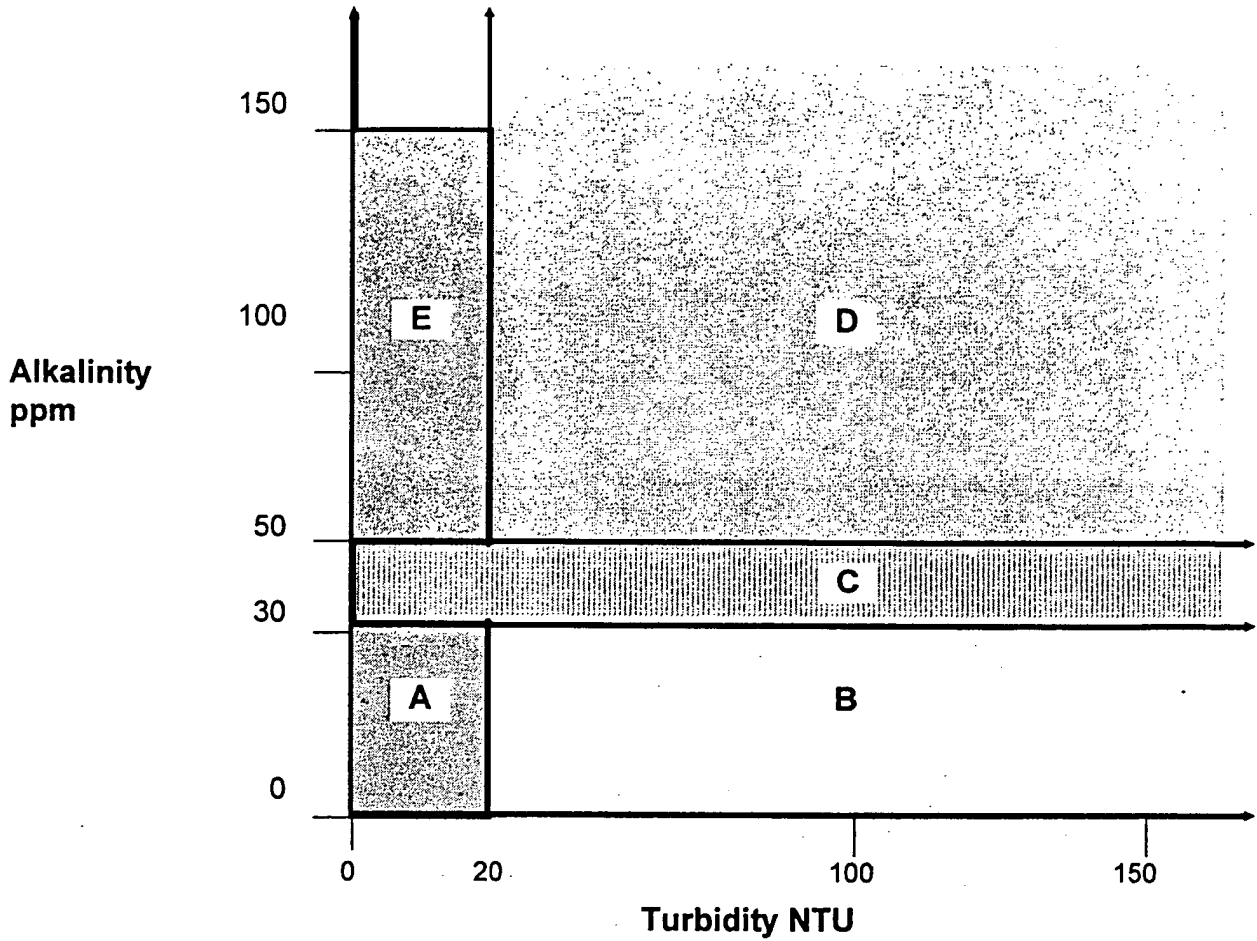


Figure 1



- A - Low alkalinity with low turbidity.
- B - Low alkalinity with moderate and high turbidity.
- C - Low alkalinity with low, moderate and high turbidity.
- D - Moderate and high alkalinity with moderate and high turbidity
- E - Moderate and high alkalinity with low turbidity.

Figure 2

| Required Removal of TOC by Enhanced Coagulation and Softening | | | |
|---|--|--------|-------|
| Raw Water TOC (ppm) | Raw Water Alkalinity (ppm as CaCO ₃) | | |
| | 0-60 | 61-120 | >120 |
| >2.0-4.0 | 35.0% | 25.0% | 15.0% |
| >4.0-8.0 | 45.0% | 35.0% | 25.0% |
| >8.0 | 50.0% | 40.0% | 30.0% |

Reference pp. 16 and 44 of 146 of NPDWR, and p. 2 of Publication of HDR Engineering, Inc., referred to as "HDR"

005260-56952960

Test Results for Water of Low alkalinity with Low Turbidity

| TEST | LOCATION | DATE | CHEM/ PPM "3" | JAR TEST MIXING (MINUTES/RPM) | | RAW WATER SPECIFICATIONS | | | FINAL SETTLED RESULTS | | | | | | | |
|------|-------------------------------|----------|-----------------------------------|----------------------------------|--------|--------------------------|--------------|---------------|-----------------------|------|--------------|---------------|------------------|-----------------|------|-----|
| | | | | RAPID FLOC. SETTLE | FLOC. | ALK. PPM | TURB. NTU | COLOR HACH | TOC UV254 | PH | TURB. NTU | COLOR HACH | TOC UV254 | PH | | |
| 1 | Hot Springs, AR (Lakeside) | 04/21/99 | CV1787 5 ppm | 3/90 | 15/20 | 15/0 | 18 | 1 | None Visible | N/A | N/A | 7.2 | 0.3 | None Visible | N/A | 7.3 |
| 2 | Hot Springs, AR (Quachita) | 03/31/99 | CV1787 6 ppm | 1/85 | 8/15 | 30/0 | 20 | 3 | None Visible | N/A | N/A | 7.2 | 0.7 | None Visible | N/A | 7.4 |
| 3 | Center, TX (Mill Creek) | 12/30/98 | CV1703 28 ppm | 1/120 | 10/40 | 30/0 | 25 | 16 | 170 | N/A | N/A | 6.9 | 1.2 ⁴ | 5 | N/A | 7.0 |
| 4 | Center, TX (Pinkston) | 11/12/98 | CV1700 8 ppm | .75/100 | 15/35 | 20/0 | 23 | 6 | None Visible | N/A | N/A | 7.4 | 0.3 | None Visible | N/A | 7.8 |
| 5 | Longview, TX (Cherokee) | 03/30/99 | CV1725 8 ppm | .6/80 | 15/30 | 10/0 | 21 | 1 | 101 | N/A | N/A | 6.8 | 0.3 | 15 | N/A | 7.0 |
| 6 | Longview, TX (Cherokee) | 01/29/99 | CV1725 6 ppm | .6/80 | 15/30 | 20/0 | 25 | 5 | 111 | N/A | N/A | N/A | 0.5 | 18 ² | N/A | N/A |
| 7 | Marshall, TX | 02/18/99 | CV1703 30 ppm | 3/50 | 1.5/40 | 10/0 | 16 | 4 | 130 | 0.40 | 0.40 | 5.6 | 0.9 | 11 | N/A | 5.5 |
| 8 | Marshall, TX | 02/18/99 | CV1703 19 ppm | 3/50 | 1.5/40 | 20/0 | 16 | 5 | 80 | 0.29 | 0.29 | N/A | 0.7 | 6 | 0.08 | N/A |
| 9 | Marshall, TX | 10/02/99 | CV1703 55 ppm | 3/50 | 1.5/40 | 20/0 | 8 | 6 | 230 | N/A | N/A | 5.9 | 0.6 | 17 ² | N/A | 6.2 |
| 10 | Marshall, TX | 07/09/97 | Alum 30 ppm CV3650 1 ppm | 2/100 | 5/40 | 15/0 | 18 | 2 | 37 | N/A | N/A | N/A | 0.5 | 9 | N/A | N/A |
| 11 | Tyler, TX | 02/04/99 | CV1710 7 ppm | 5/100 | 10/60 | 15/0 | 22 | 3 | None Visible | *** | *** | 7.6 | 0.5 | None Visible | *** | 7.6 |
| 12 | Nacogdoches, TX | 03/09/99 | CV1735 14 ppm | 2/100 | 10/30 | 20/0 | 17 | 23 | 260 | N/A | N/A | N/A | 0.7 | 8 | N/A | N/A |
| 13 | Mt. Pleasant, TX | 06/08/99 | CV1740 5 ppm | 1/100 | 5/30 | 20/0 | 14 | 3 | None Visible | N/A | N/A | 6.7 | 0.4 | None Visible | N/A | 6.8 |
| 14 | Nacogdoches, TX | 06/22/99 | CV1735 7 ppm | 2/100 | 10/30 | 20/0 | 26 | 4 | 56 | N/A | N/A | 7.0 | 0.2 | 0 | N/A | 7.2 |

- Best Results of dosage curve. *** CV1710 obtained 47% TOC removal. Alum only obtained 19%.
- Anthraccite filters can easily remove 5 Standard Color Units.
- Dosages are on a mass basis. Products are 40 to 50 percent active. For dosages on an active basis, conversions must be made.
- Jar test designed to match the plant, which had VERY poor mixing. With plant modifications, operation is less than 1.0 NTU. Please refer to write up in the specification.

Test Results for Raw Water of Low Alkalinity and Moderate to high Turbidity

| TEST | LOCATION | DATE | CHEM/ PPM "3" | JAR TEST MIXING (MINUTES/RPM) | | RAW WATER SPECIFICATIONS | | | FINAL SETTLED RESULTS ¹ | | | | | |
|------|-----------------|----------|--|----------------------------------|-------|--------------------------|-----------|------------|--|-----|-------------------|--------------|-----------|-----|
| | | | | RAPID FLOC. SETTLE | | ALK. PPM | TURB. NTU | COLOR HACH | TOC UV254 | PH | TURB. NTU | COLOR HACH | TOC UV254 | PH |
| 1 | Nederland, TX | 01/27/95 | CV1777 66 ppm | 1/120 | 10/30 | 20/0 | 16 | 73 | N/A | N/A | 0.8 | N/A | N/A | 6.7 |
| 2 | Nederland, TX | 01/27/95 | ACH ⁴ 70 ppm | 1/120 | 10/30 | 20/0 | 16 | 73 | N/A | N/A | 5.6 ⁴ | N/A | N/A | 6.7 |
| 3 | Nederland, TX | 01/27/95 | AlCl ₃ ⁴ 70 ppm | 1/120 | 10/30 | 20/0 | 16 | 73 | N/A | N/A | 10.2 ⁴ | N/A | N/A | 6.7 |
| 4 | Nederland, TX | 12/22/97 | CV1777 26 ppm | 3/250 | 15/40 | 15/0 | 18 | 35 | N/A | N/A | 0.5 | N/A | N/A | 7.6 |
| 5 | Nederland, TX | 09/30/98 | CV1777 55 ppm | 3/120 | 5/40 | 10/0 | 22 | 20 | 225 | N/A | 0.5 | 6 | N/A | N/A |
| 6 | Nederland, TX | 02/23/99 | CV1777 42 ppm | 3/250 | 5/30 | 15/0 | 11 | 47 | 150 | N/A | 0.9 | 10 | N/A | 7.2 |
| 7 | Nederland, TX | 06/23/99 | CV1777 40 ppm PA-AA | 3/215 | 5/35 | 10/0 | 18 | 31 | 128 | N/A | 0.7 | 7 | N/A | 6.8 |
| 8 | Beaumont, TX | 07/07/98 | CV1730 18 ppm PA-AA | 2/120 | 10/25 | Filter Paper | 22 | 32 | 42 | N/A | 0.1 ² | 2 | N/A | 6.6 |
| 9 | Beaumont, TX | 07/07/98 | CV1730 90 ppm PA-AA | 2/120 | 10/25 | Filter Paper | 22 | 32 | 120 Color Units Above spiked w/ Tannic Acid for capability testing. | N/A | 0.1 ² | 16 | N/A | 5.6 |
| 10 | Beaumont, TX | 02/11/99 | CV1730 40 ppm PA-AA | 2/120 | 10/25 | Filter Paper | 12 | 33 | 108 | N/A | 0.1 ² | 5 | N/A | 6.5 |
| 11 | Port Arthur, TX | 1995 | Alum 24 ppm CV3650 10 ppm | 1/120 | 15/30 | 20/0 | 20 | 36 | N/A | N/A | 0.6 | None Visible | N/A | N/A |
| 12 | Port Arthur, TX | 06/16/99 | CV1756 19 ppm | 1/120 | 15/30 | 20/0 | 21 | 82 | N/A | N/A | 0.9 | None Visible | N/A | 6.5 |

1. Best results of dosage curve.
 2. 40 micron filter instead of settling.
 3. Dosages are on a mass basis. Products are 40 to 50 percent active. For dosages on an active basis, conversions must be made.
 4. Single component aluminum tests for comparison. ACH was Courtney ACH @ 50% active. AlCl₃ was Courtney AlCl₃ @ 33% active.

Test Results for Raw Water of Low Alkalinity with Low to high Turbidity

Table "C"

| TEST | LOCATION | DATE | CHEM/ PPM "2" | JAR TEST MIXING (MINUTES/RPM) | | | RAW WATER SPECIFICATIONS | | | FINAL SETTLED RESULTS ¹ | | | |
|------|----------------|----------|---------------------|----------------------------------|----------------|------|--------------------------|-----------|--------------|------------------------------------|--------------|-----------|------------|
| | | | | RAPID FLOC. SETTLE | 12/18 11/16 | 30/0 | ALK. PPM | TURB. NTU | None Visible | TURB. NTU | None Visible | TURB. NTU | COLOR HACH |
| 1 | Kilgore, TX | 06/03/99 | CV1788 20 ppm | 1.3/100 | 11/16 | 30/0 | 40 | 38 | N/A | 7.1 | 0.8 | N/A | 7.3 |
| 2 | Shreveport, LA | 10/29/98 | CV1795 8 ppm | 1/100 | 5/50 20/20 | 30/0 | 44 | 8 | N/A | 7.8 | 0.9 | N/A | |
| 3 | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |

1. Best Results of dosage curve.

2. Dosages are on a mass basis. Products are 40 to 50 percent active. For dosages on an active basis, conversions must be made.

Test Results for Raw Water of Moderate to High Alkalinity and Moderate to high Turbidity

| TEST | LOCATION | DATE | CHEM/ PPM "3" | JAR TEST MIXING (MINUTES/RPM) | | RAW WATER SPECIFICATIONS | | | FINAL SETTLED RESULTS ¹ | | | | | | |
|------|----------------------------------|----------|---------------------|----------------------------------|----------|--------------------------|------------|-----------|------------------------------------|-----------|------------|------------------|--------------|------|-----|
| | | | | RAPID FLOC. SETTLE | ALK. PPM | TURB. NTU | COLOR HACH | TOC UV254 | PH | TURB. NTU | COLOR HACH | TOC UV254 | PH | | |
| 1 | Columbia, MO | 1/18/99 | CV1750 2 ppm | .5/60 | 15/60 | 30/0 | 150 | 21 | None Visible | N/A | 9 | 0.7 | None Visible | N/A | 9 |
| 2 | Denton, TX | 06/16/99 | CV1740 5 ppm | 2/100 | 10/30 | 10/0 | 120 | 23 | None Visible | N/A | 7.9 | 0.3 | None Visible | N/A | 8.2 |
| 3 | Lewisville, TX | 04/01/99 | CV1790 10 ppm | 3/135 | 2.5/70 | 7/0 | 105 | 27 | None Visible | N/A | 8.0 | 0.1 ² | None Visible | N/A | 8.2 |
| 4 | Denton, TX | 04/06/99 | CV1740 8 ppm | .1/185 | 12/40 | 13/0 | 110 | 23 | None Visible | 0.079 | 7.9 | 0.2 | None Visible | 0.05 | 8.4 |
| 5 | Denton, TX | 03/18/99 | CV1790 6 ppm | .1/185 | 13/40 | 14/0 | 110 | 27 | None Visible | 0.261 | 7.9 | 0.9 | None Visible | 0.06 | 8.0 |
| 6 | Ft. Worth, TX (Rolling Hills) | 02/23/99 | CV1735 8 ppm | 2/120 | 17/16 | 20/0 | 81 | 20 | None Visible | N/A | 8.0 | 0.9 | None Visible | N/A | 8.2 |

1. Best Results of dosage curve.

2. 40 micron filter.

3. Dosages are on a mass basis. Products are 40 to 50 percent active. For dosages on an active basis, conversions must be made.

Test Results for Raw Water of Moderate to High Alkalinity with Low Turbidity

| TEST | LOCATION | DATE | CHEM/ PPM "3" | JAR TEST MIXING (MINUTES/RPM) | | RAW WATER SPECIFICATIONS | | | FINAL SETTLED RESULTS ¹ | | | | | |
|------|----------------------------------|----------|---------------------|----------------------------------|----------------|--------------------------|-----------|-----------------|------------------------------------|-----|-----------|-----------------|-----------|-----|
| | | | | RAPID FLOC. SETTLE | 10/30 5/15 | ALK. PPM | TURB. NTU | COLOR HACH | TOC UV254 | PH | TURB. NTU | COLOR HACH | TOC UV254 | PH |
| 1 | TRA Eules, TX | 06/17/99 | CV1740 8 ppm | 2/100 | 10/30 | 112 | 4 | None Visible | N/A | 7.9 | 0.7 | None Visible | N/A | 7.9 |
| 2 | Ft. Worth, TX (Rolling Hills) | 03/02/99 | CV1735 10 ppm | 2/120 | 17/16 | 109 | 16 | None Visible | N/A | 7.8 | 0.7 | None Visible | N/A | |
| 3 | Denton, TX | 03/04/99 | CV1790 8 ppm | 1/185 | 13/40 45/30 | 109 | 15 | None Visible | N/A | 7.8 | 0.3 | None Visible | N/A | 7.9 |
| 4 | DC Park Cities, TX | 03/29/99 | CV1740 12 ppm | 1/100 | 15/25 | 105 | 16 | None Visible | N/A | 7.8 | 0.7 | None Visible | N/A | 8.0 |
| 5 | TRA Eules, TX | 05/28/99 | CV1740 10 ppm | 2/120 | 7/20 | 120 | 4 | None Visible | N/A | 7.8 | 0.3 | None Visible | N/A | 7.8 |
| 6 | Waxahachie, TX | 02/16/99 | CV1788 10 ppm | 1/250 | 28/50 28/30 | 120 | 9 | None Visible | N/A | 7.8 | 0.1 | None Visible | N/A | 7.9 |
| 7 | Columbia, MO ² | 05/19/99 | CV1789 3.5 ppm | 1/60 | 15/40 5/15 | ~ 150 | 16 | None Visible | N/A | 9 | 0.5 | None Visible | N/A | 9 |
| 8 | BRA Granbury, TX | 02/10/99 | CV1787 10 ppm | 1/125 | 39/25 | 105 | 6 | None Visible | N/A | N/A | 0.7 | None Visible | N/A | N/A |

1. Best Results of dosage curve.
2. This is a lime softening facility. The raw alkalinity is 200 to 350 and the raw turbidity is 1 to 3. Testing was performed on the secondary clarifier, where, the alkalinity has already been reduced.
3. Dosages are on a mass basis. Products are 40 to 50 percent active. For dosages on an active basis, conversions must be made.

Test Results - Comparison Tests

| TEST | LOCATION | DATE | CHEM/ PPM "2" | JAR TEST MIXING (MINUTES/RPM) | | RAW WATER SPECIFICATIONS | | | FINAL SETTLED RESULTS ¹ | | | | | | |
|------|------------------|----------|---|----------------------------------|-----------------|--------------------------|------------|-----------|------------------------------------|-----------|------------|-----------|-----------------|-------|-----|
| | | | | RAPID FLOC. SETTLE | ALK. PPM | TURB. NTU | COLOR HACH | TOC UV254 | PH | TURB. NTU | COLOR HACH | TOC UV254 | PH | | |
| 1 | Marshall, TX | 05/14/99 | CV1703 28 ppm | 2.5/50 1.5/100 | 1.5/40 5/20 | 30/0 | 12 | 11 | 184 | 0.53 | 6.2 | 0.7 | 8 | 0.08 | 6.2 |
| 2 | Marshall, TX | 05/14/99 | CV1703 LMW DAD 32 ppm | 2.5/50 1.5/100 | 1.5/40 15/20 | 30/0 | 12 | 11 | 184 | 0.53 | 6.2 | 2.4 | 34 | 0.21 | 6.3 |
| 3 | Marshall, TX | 05/14/99 | AlCl ₃ 20:1 HMW DAD 40 ppm | 2.5/50 1.5/100 | 1.5/40 15/20 | 30/0 | 12 | 11 | 184 | 0.53 | 6.2 | 1.1 | 13 | 0.19 | 5.3 |
| 4 | Marshall, TX | 05/14/99 | AlCl ₃ 20:1 LMW DAD 50 ppm | 2.5/50 1.5/100 | 1.5/40 15/20 | 30/0 | 12 | 11 | 184 | 0.53 | 6.2 | 2.1 | 27 | 0.168 | 5.3 |
| 5 | TRA Eules, TX | 06/17/99 | PAC 50% 14 ppm | 2/100 | 10/30 5/15 | 10/0 | 112 | 4.0 | None Visible | N/A | 7.8 | 1.6 | None Visible | N/A | 7.8 |
| 6 | TRA Eules, TX | 06/17/99 | AlCl ₃ 27 ppm | 2/100 | 10/30 5/15 | 10/0 | 112 | 4.0 | None Visible | N/A | 7.0 | 0.4 | None Visible | N/A | N/A |
| 7 | TRA Eules, TX | 06/17/99 | CV1740 10 ppm | 2/100 | 10/30 5/15 | 10/0 | 112 | 4.0 | None Visible | N/A | 7.0 | 0.3 | None Visible | N/A | 8.0 |
| 8 | Denton, TX | 06/16/99 | PAC 50% 14 ppm | 2/100 | 10/30 5/15 | 10/0 | 120 | 23 | None Visible | N/A | 7.9 | 3.5 | None Visible | N/A | N/A |
| 9 | Denton, TX | 06/16/99 | AlCl ₃ 24 ppm | 2/100 | 10/30 5/15 | 10/0 | 120 | 23 | None Visible | N/A | 7.9 | 1.1 | None Visible | N/A | N/A |
| 10 | Denton, TX | 06/16/99 | CV1740 6 ppm | 2/100 | 10/30 5/15 | 10/0 | 120 | 23 | None Visible | N/A | 7.9 | 0.3 | None Visible | N/A | N/A |
| 11 | Pt. Arthur, TX | 06/16/99 | PAC 50% 70 ppm | 2/100 | 10/40 5/15 | 10/0 | 26 | 77 | None Visible | N/A | 6.4 | 6.0 | None Visible | N/A | 6.6 |
| 12 | Pt. Arthur, TX | 06/16/99 | AlCl ₃ 70 ppm | 2/100 | 10/40 5/15 | 10/0 | 26 | 77 | None Visible | N/A | 6.4 | 2.8 | None Visible | N/A | 5.6 |
| 13 | Pt. Arthur, TX | 06/16/99 | CV1756 24 ppm | 2/100 | 10/40 5/15 | 10/0 | 26 | 77 | None Visible | N/A | 6.4 | 0.7 | None Visible | N/A | 6.6 |

1. Best Results of dosage curve.
2. Dosages are on a mass basis. Products are 40 to 50 percent active. For dosages on an active basis, conversions must be made.
3. Aluminum Chloride is 33% active.
4. Low Molecular weight DADMAC is 20% active with a viscosity of 250 CPS which correlates to a molecular weight of about 250,000.
5. PAC is 50% active and 50% basic.

FIGURE 9

Ratios of AP-AC to Amp

| Product | Sg | RM-20 AP | RM-21 AS | RM-22 M,H MW DADMAC | RM-23 LMW Epi-DMA | RM-24 M,HMW EPI-DMA | H ₂ O | AP-AS/ LMW Amp | AC-AS/ M,H,VH MW Amp |
|-----------------------|------|-------------|-------------|---------------------------|-------------------------|---------------------------|------------------|----------------------|-------------------------------|
| CV 1700 | 1.22 | 27/15 | 33/17 | 9/1.6 | 12/5.7 | 9/4.2 | 10 | 3 | 6 |
| CV 1702 | 1.26 | 0 | 95/48 | 5/1.4 | 0 | 0 | 0 | 34 | 34 |
| CV 1703 | 1.24 | 37/20 | 42/21 | 10/1.7 | 9/4.1 | 0 | 2 | 7 | 24 |
| CV 1705 | 1.25 | 35/19 | 40/20 | 0 | 15/6.9 | 10/4.6 | 0 | 3 | 8 |
| CV 1710 | 1.22 | 27/15 | 31/16 | 14/2.4 | 14/6.6 | 9/4.2 | 5 | 2 | 5 |
| CV 1715 | 1.17 | 27/16 | 33/18 | 10/1.8 | 10/4.9 | 10/4.9 | 10 | 3 | 5 |
| CV 1720 | 1.21 | 26.5/15 | 31.5/17 | 27/4.7 | 10/4.8 | 0 | 5 | 3 | 7 |
| CV 1725 | 1.21 | 25/14 | 30/16 | 10/1.7 | 20/9.5 | 5/2.4 | 10 | 2 | 11 |
| CV 1730 | 1.21 | 25/14 | 30/16 | 16/2.8 | 24/11.4 | 0 | 5 | 2 | 11 |
| CV 1735 | 1.25 | 60/32 | 0 | 20/3.4 | 15/6.9 | 5/2.3 | 0 | 3 | 6 |
| CV 1740 | 1.27 | 70/38 | 0 | 20/3.3 | 0 | 10/4.5 | 0 | 5 | 5 |
| CV 1745 | 1.28 | 70/37 | 0 | 15/2.7 | 15/6.8 | 0 | 0 | 4 | 14 |
| CV 1750 | 1.28 | 70/37 | 0 | 7.5/1.2 | 7.5/3.4 | 15/6.7 | 0 | 3 | 5 |
| CV 1754 | 1.25 | 70/34 | 0 | 10/1.5 | 0 | 20/8.3 | 9 | 3 | 3 |
| CV 1756 | 1.27 | 66/35 | 0 | 0 | 21/9.5 | 8/3.6 | 5 | 3 | 10 |
| CV 1760 (old 1777) | 1.23 | 60/33 | 0 | 40/6.8 | 0 | 0 | 0 | 5 | 5 |
| CV 1770 | 1.23 | 32.5/18 | 37.5/19 | 30/5.1 | 0 | 0 | 0 | 7 | 7 |
| CV 1775 | 1.29 | 75/39 | 0 | 13/2.2 | 12/5.4 | 0 | 0 | 5 | 18 |
| CV 1778 | 1.26 | 60/32 | 0 | 10/1.7 | 30/13.7 | 0 | 0 | 2 | 19 |
| CV 1780 | 1.20 | 50/28 | 0 | 50/8.8 | 0 | 0 | 0 | 3 | 3 |
| CV 1785 | 1.33 | 90/46 | 0 | 0 | 7.5/3.2 | 2.5/1.1 | 0 | 11 | 42 |
| CV 1786 | 1.25 | 50/27 | 0 | 0 | 30/13.8 | 20/9.2 | 0 | 1 | 3 |
| CV 1787 | 1.32 | 85/44 | 0 | 0 | 0 | 15/6.5 | 0 | 7 | 7 |
| CV 1788 | 1.30 | 80/42 | 0 | 10/1.6 | 10/4.4 | 0 | 0 | 7 | 26 |
| CV 1790 | 1.32 | 85/44 | 0 | 5/0.8 | 0 | 10/4.4 | 0 | 8 | 8 |
| CV 1795 | 1.23 | 45/25 | 0 | 0 | 32/15 | 13/6.1 | 10 | 1 | 4 |
| CV 1798 | 1.34 | 95/48 | 0 | 5/0.8 | 0 | 0 | 0 | 60 | 60 |
| CV 1901 | 1.31 | 90/46 | 0 | 6/1.8,CV5160 | 0 | 0 | 3 | 23 | 23 |
| CV 1903 | 1.24 | 37/20 | 42/22 | 5/1.6,CV5180 | 9/4 | 0 | 4 | 7.5 | 26 |
| CV 1995 | 1.20 | 45/25 | 0 | 5/1.7,CV5140 | 32/15 | 0 | 15 | 1.5 | 15 |
| CV 1170 | 1.30 | 40/21 | 60/29 | 0 | 0 | 0 | 0 | Infinite | Infinite |
| CV 1180 | 1.16 | 40/23 | 45/25 | 0 | 10/5 | 0 | 4 | 10 | Infinite |
| CV 1190 | 1.30 | 85/44 | 0 | 0 | 10/4.5 | 0 | 4 | 10 | Infinite |

RM-20 is CV 1100 being a 50% active 84% basic 24% measured Al₂O₃ ACH solution having a Sg of 1.35.
 RM-21 is CV 1135 being a 10% measured Al₂O₃ AlCl₃ solution having a Sg of 1.27 and an estimated 50% activity.
 RM-22 is CV 3650 being a 20% active HMW DADMAC having a Sg of 1.05 and a viscosity of 2,000 +/- 1000 cps.
 RM-23 is CV 3210 being a 50% active LMW Epi-DMA having a Sg of 1.15 and a viscosity of 125 +/- 50 cps.
 RM-24 is CV 3250 being a 50% active HMW Epi-DMA having a Sg of 1.15 and a viscosity of 6,000 to 11,000 cps.

006260 " 5652460

FIGURE 9 Continued

CV 5140 is a 40-mole % cationic Q-9 Polyacrylamide 40% Active Emulsion in Oil.
CV 5160 is a 60-mole % cationic Q-9 Polyacrylamide 40% Active Emulsion in Oil.
CV 5180 is a 80-mole % cationic Q-9 Polyacrylamide 40% Active Emulsion in Oil.
CV 5140 is a 40-mole % cationic Q-9 Polyacrylamide 40% Active Emulsion in Oil.

CV 6200P is a nonionic Polyacrylamide 40% Active Emulsion in Oil.
CV 6230P is a 30-mole % anionic Acrylic Acid Polyacrylamide 40% Active Emulsion in Oil.

005250" 5692950

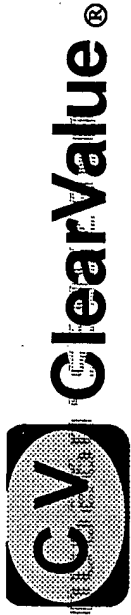


FIGURE 10

Test Results - Comparison Tests

| TEST | LOCATION | DATE | CHEM/ PPM "2" | JAR TEST MIXING (MINUTES/RPM) | | RAW WATER SPECIFICATIONS | | | | FINAL SETTLED RESULTS ¹ | | | | | |
|------|-----------------|----------|---------------------------|----------------------------------|------|--------------------------|-----------|------------|-----------------|------------------------------------|-----------|------------|-----------------|-----|-----|
| | | | | RAPID FLOC. SETTLE | | ALK. PPM | TURB. NTU | COLOR HACH | TOC UV254 | PH | TURB. NTU | COLOR HACH | TOC UV254 | PH | |
| 1 | Nederland, TX | 02/23/99 | ACH/Epi 20:1 40 ppm | 3/250 | 5/30 | 15/0 | 11 | 47 | 150 | N/A | 7.0 | 9.0 | 93 | N/A | 7.1 |
| 2 | Nederland, TX | 02/23/99 | ACH/DAD 20:1 45 ppm | 3/250 | 5/30 | 15/0 | 11 | 47 | 150 | N/A | 7.0 | 3.4 | 29 | N/A | 7.2 |
| 3 | Nederland, TX | 02/23/99 | AIC/Epi 20:1 45 ppm | 3/250 | 5/30 | 15/0 | 11 | 47 | 150 | N/A | 7.0 | 3.7 | 22 | N/A | 5.3 |
| 4 | Nederland, TX | 02/23/99 | AIC/DAD 20:1 40 ppm | 3/250 | 5/30 | 15/0 | 11 | 47 | 150 | N/A | 7.0 | 5.8 | 56 | N/A | 5.5 |
| 5 | Nederland, TX | 02/23/99 | CV1777 34 ppm | 3/250 | 5/30 | 15/0 | 11 | 47 | 150 | N/A | 7.0 | 0.9 | 10 | N/A | 7.1 |
| 6 | Hot Springs, AR | 03/31/99 | ACH/Epi 20:1 5 ppm | 1/85 | 15/8 | 30/0 | 20 | 2 | None Visible | N/A | 7.2 | 1.9 | None Visible | N/A | 7.2 |
| 7 | Hot Springs, AR | 03/31/99 | ACH/DAD 20:1 5 ppm | 1/85 | 15/8 | 30/0 | 20 | 2 | None Visible | N/A | 7.2 | 2.2 | None Visible | N/A | 7.2 |
| 8 | Hot Springs, AR | 03/31/99 | AIC/Epi 20:1 11 ppm | 1/85 | 15/8 | 30/0 | 20 | 2 | None Visible | N/A | 7.2 | 2.6 | None Visible | N/A | 6.8 |
| 9 | Hot Springs, AR | 03/31/99 | AIC/DAD 20:1 11 ppm | 1/85 | 15/8 | 30/0 | 20 | 2 | None Visible | N/A | 7.2 | 2.8 | None Visible | N/A | 6.8 |
| 10 | Hot Springs, AR | 03/31/99 | CV1787 6 ppm | 1/85 | 15/8 | 30/0 | 20 | 2 | None Visible | N/A | 7.2 | 0.7 | None Visible | N/A | 7.3 |

1. Best Results of dosage curve.
2. Dosages are on a mass basis. Products are 40 to 50 percent active. For dosages on an active basis, conversions must be made.
3. DADMAC is 20% active with a viscosity of 20 cps which correlates to a molecular weight of 250,000.
4. Epi-DMA is 50% active with a viscosity of 150 cps which correlates to a molecular weight of 300,000.
5. ACH is 50 percent active. AIC₃ is 50% active.



FIGURE 11

Test Results - Comparison Testing

| TEST | LOCATION | DATE | CHEM/ PPM "2" | JAR TEST MIXING (MINUTES/RPM) | | RAW WATER SPECIFICATIONS | | | FINAL SETTLED RESULTS ¹ | | | | | |
|------|--------------|----------|---------------------------|----------------------------------|---------------------|--------------------------|-----------|------------|------------------------------------|-----|-----------|-----------------------|-----------|-----|
| | | | | RAPID FLOC. SETTLE | 1.5/4 0 5/20 | ALK. PPM | TURB. NTU | COLOR HACH | TOC UV254 | PH | TURB. NTU | COLOR HACH | TOC UV254 | PH |
| 1 | Marshall, TX | 02/18/99 | ACH/Epi 20:1 35 ppm | 3/50 1/100 | 1.5/4 0 5/20 | 18 | 11 | 130 | 0.40 | 6.0 | 1.0 | 6 | .107 | 6.2 |
| 2 | Marshall, TX | 02/18/99 | ACH/DAD 20:1 30 ppm | 3/50 1/100 | 1.5/4 0 5/20 | 18 | 11 | 130 | 0.40 | 6.0 | 1.3 | 20 | N/A | 5.9 |
| 3 | Marshall, TX | 02/18/99 | AIC/Epi 20:1 35 ppm | 3/50 1/100 | 1.5/4 0 15/20 | 18 | 11 | 130 | 0.4 | 6.0 | 1.7 | 24 | 0.16 | 4.5 |
| 4 | Marshall, TX | 02/18/99 | AIC/DAD 20:1 35 ppm | 3/50 1/100 | 1.5/4 0 15/20 | 18 | 11 | 130 | 0.4 | 6.0 | 2.1 | 22 | 0.16 | 4.3 |
| 5 | Marshall, TX | 02/18/99 | CV1703 19 ppm | 3/50 1/100 | 1.5/4 0 15/20 | 18 | 11 | 130 | 0.4 | 6.0 | 0.7 | 6 | 0.08 | 6.1 |
| 6 | Longview, TX | 03/30/99 | ACH/Epi 20:1 8 ppm | .6/80 20/20 | 15/30 20/20 | 21 | 2 | 101 | N/A | 6.8 | 3.4 | 80 | N/A | 6.9 |
| 7 | Longview, TX | 03/30/99 | ACH/DAD 20:1 8 ppm | .6/80 20/20 | 15/30 20/20 | 21 | 2 | 101 | N/A | 6.8 | 3.1 | 86 | N/A | 6.9 |
| 8 | Longview, TX | 03/30/99 | AIC/Epi 20:1 12 ppm | .6/80 20/20 | 15/30 20/20 | 21 | 2 | 101 | N/A | 6.8 | 1.2 | N/A Drop Sample | N/A | 5.9 |
| 9 | Longview, TX | 03/30/99 | AIC/DAD 20:1 12 ppm | .6/80 20/20 | 15/30 20/20 | 21 | 2 | 101 | N/A | 6.8 | 1.3 | 73 | N/A | 5.9 |
| 10 | Longview, TX | 03/30/99 | CV1725 8 ppm | .6/80 20/20 | 15/30 20/20 | 21 | 2 | 101 | N/A | 6.8 | 0.3 | 15 | N/A | 7.0 |

1. Best Results of dosage curve.
2. Dosages are on a mass basis. Products are 40 to 50 percent active. For dosages on an active basis, conversions must be made.
3. DADMAC is 20% active with a viscosity of 20 cps which correlates to a molecular weight of 200,000.
4. Epi-DMA is 50% active with a viscosity of 150 cps which correlates to a molecular weight of 300,000.